

Atchison County

Estimated Economic Impact of Agriculture, Food, and Food Processing Sectors

10/3/2014

18 agriculture, food, and food processing sectors were analyzed to determine their overall contribution to the Atchison County economy.¹

These 18 sectors have a total direct output of approximately \$680 million and support 1,903.4 jobs in Atchison County. Running the model for all 18 sectors simultaneously produces the following results:

Agriculture Contribution in Atchison Co						
Impact Type ²	Employment	% Employment	Total Value Added ³	% of Gross Regional Product ⁴	Output ⁵	% of Gross Regional Product
Direct Effect	1,903.4	19%	133,245,433.1	22%	679,596,771.4	114%
Indirect Effect	367.6	4%	33,255,033.5	6%	61,575,265.9	10%
Induced Effect	284.5	3%	21,486,881.2	4%	34,643,548.0	6%
Total Effect	2,555.5	26%	187,987,347.8	31%	775,815,585.3	130%

As shown in the above table, agriculture, food, and food processing supports 2,555.5 jobs, or 26% of the entire workforce in the county. These industries provide a total economic contribution of approximately \$776 million, roughly 130% of Gross Region Product (GRP). As noted below in the calculation of Gross Regional Product, imports and institutional sales are subtracted. Therefore, counties that import a relatively large amount of goods and services will have a reduced GRP which may lead to agricultural output being greater than GRP.

Another metric used to calculate the importance of sectors in an economy is their value added as a percentage of GRP. Total value added by the 18 agriculture, food, and food processing sectors is approximately \$188 million, or 31% of the GRP. This indicates that personal income, business income, and taxes generated by these sectors account for 31% of the total economy.

¹ Article on building a contribution analysis in IMPLAN that avoids double counting:

http://www.implan.com/index.php?option=com_content&view=article&id=660%3A660&catid=253%3AKB33&Itemid=70

² Direct, indirect, and induced effects sum together to estimate the total economic contribution in the state. **Direct effects** capture the contribution from agricultural and food products. **Indirect effects** capture the economic benefit from farms and agricultural businesses purchasing inputs from supporting industries within the state. **Induced effects** capture the benefits created when employees of farms, agricultural businesses, and the supporting industries spend their wages on goods and services within the state.

³ Value added = labor income + indirect business taxes + other property type income.

⁴ GRP = final demand of households + governments expenditures + capital + exports - imports - institutional sales.

⁵ Output = intermediate inputs + value added.

The following tables document the overall summary numbers of the model, top industries affected by employment and output, and a listing of all industries that were analyzed.

In the top ten by employment, Food services and drinking places is the top employer in the agriculture industry with 637.7 employees. This table also shows the amount of jobs that are created by the agriculture industry in Atchison County.

Description	Total Employment	Total Output
Food services and drinking places	637.7	32,887,138.5
Grain farming	384.3	35,092,417.9
Flour milling and malt manufacturing	202.3	280,188,453.5
Cattle ranching and farming	145.7	35,854,766.3
Other animal food manufacturing	133.8	201,457,586.3
Oilseed farming	107.5	27,182,741.7
Other industrial machinery manufacturing	75.7	28,065,261.3
Services to buildings and dwellings	58.5	2,593,488.1
Wholesale trade businesses	57.7	10,193,467.6
Maintenance and repair construction of nonresidential structures	43.7	4,951,646.8

The Flour milling and malt manufacturing industry directly contributes approximately \$280 million to Atchison County's economy. This table also shows how much revenue is generated in other industries by having a strong agriculture industry.

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Oilseed farming	107.5	27,182,741.7
All other crop farming	27.4	15,734,853.9
Monetary authorities and depository credit intermediation activities	34.3	11,126,224.5
Transport by rail	18.8	10,611,609.6

Below is a summary of all agriculture data with employment levels and output level. These values can tell how many jobs are represented by each agriculture sector and the output they contributed to Atchison County's economy.

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All 105 counties in Kansas have Implan models and agriculture contribution summary. These values do not factor in the retail environment of food sales. Food retail is important, but in order to provide the most accurate picture of what production agricultural and processing contributes to Kansas, the retail sector was omitted.